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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,010	11/13/2003	Ray F. Campbell	BOE 0413 PA	1009

27256 7590 12/10/2004

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EXAMINER

CHAPMAN JR, JOHN E

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,010	<b>Applicant(s)</b> CAMPBELL, RAY F.	
	<b>Examiner</b> John E Chapman	<b>Art Unit</b> 2856	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the filter (claim 18) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The disclosure is objected to because of the following informalities:

Paragraph 22 does not refer to reference numerals in Fig. 2. Rather the reference numerals appear in Figs. 1 and 4.

Paragraph 27, line 7, the spelling of "Newton's" should be corrected.

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Paragraph 33, lines 9, the same reference letter “a” should be used to indicate both the linear and tangential acceleration. Rather “a<sub>t</sub>” and “a<sub>r</sub>” should be used. Likewise for lines 10-15.

Paragraph 39, line 6, “26” should be --28--.

Appropriate correction is required.

3. The following is a quotation of the first and second paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 15 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 15, it is not clear how or why the polarities of the first oscillator signal and the second oscillator signal are determined. No explanation appears in the specification.

Regarding claim 19, it is not clear how the accelerometers are arranged “to receive cross axis thrust data.” No explanation appears in the specification.

5. Claims 1-9 and 11-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, there is insufficient structure to support “wherein a first phase shift capacitance signal is generated from said first flexure plate and said fixed plate” in lines 16-18. A variation in the distance between the first flexure plate and the fixed plate will not *ipso facto* generate a phase shift capacitance signal. In order to generate a phase shift signal, it is necessary that a periodic signal be applied to the first flexure plate, so that a variation in the distance between the first flexure plate and the fixed plate will shift the phase of the capacitance signal. Hence, claim 1 should recite a means for applying a periodic signal to the first flexure plate in order to provide adequate support for generation of a first phase shift capacitance signal. Likewise, a means for applying a periodic signal to the second flexure plate should also be recited.

Regarding claim 6, it is not clear that the structure is operatively connected to the system of claim 4. It should be made clear, for example, that the “linear or angular-tangential acceleration signal” recited in claim 4 comprises the “system control signal” recited in claim 6. Note claim 8.

Regarding claim 9, it is not clear how claim 9 further limits claim 1. Any object may comprise a plurality of sections.

Regarding claim 11, it is not clear how the flexure plates are maintained in a common plane. Since the flexure plates are rigidly fixed to the metal housing structure 36 (see paragraph 26), they are necessarily maintained in a common plane by the metal housing structure.

Regarding claim 12 it is not clear how the claim further limits claim 10. In particular, it is not clear that there is any difference between “a first frequency signal” and “a first oscillator signal.” How can there be a frequency signal without there being an oscillator signal?

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Regarding claim 13 it is not clear how the claim further limits claim 12. In particular, it is not clear that there is any difference between “a second frequency signal” and “a second oscillator signal.”

Regarding claim 16, it is not clear how the flexure plates are maintained in a common plane, as indicated above in regard to claim 11.

Regarding claim 19, it is not clear how the accelerometers are arranged “to receive cross axis thrust data.” Furthermore, there is insufficient structure to support the presence of cross axis thrust.

Regarding claim 20, it is not clear how or why the fixed plate comprises a plurality of fixed plates.


6. Claim 10 is allowed.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miao et al. disclose a dual flexure plate accelerometer in Fig. 1 comprising first plate 14a attached by a flexure 13 to a substrate 11 and a second plate 14b attached by a flexure 13 to the substrate. Reddi et al. discloses a dual flexure plate accelerometer in Fig. 5 comprising first plate 32 attached by a flexure 27 (see Fig. 2A) to a housing and a second plate 37 attached by a flexure 27 to the housing. Watson discloses an inertial platform accelerometer cluster comprising an accelerometer pair 15x, 15x' for measuring angular acceleration about the y-axis in Fig. 1.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John E Chapman whose telephone number is (571) 272-2191. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John E Chapman  
Primary Examiner  
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